II. AMENDMENTS TO THE SPECIFICATION

Please replace the title found on page 1, line 1 with the following replacement title:

ABSORBENT LAMINATE HAVING MULTIPLE LAYERS

Please replace the paragraph starting at page 14, line 7, with the following replacement paragraph:

Other non-SAP-containing roll good materials such as latex or thermally bonded airlaid fluff pulp, (e.g., roll good available from Walkisoft, Merfin or Fort James), or synthetic spunbonded, carded, or hydro-entangled non-woven may be positioned above and below the absorbent core. At least the central fibrous layer of the absorbent laminate core preferably contains 50-95% by weight particulate or fibrous SAP and at least one other fibrous or particulate material that is capable of maintaining high SAP efficiency. **Preferably, the SAP efficiency of the central fibrous layer is at least 80%.** As described in U.S. Patent No. 6,068,620, SAP efficiency can be expressed as the ratio of the actual SAP absorbency under load, or AUL (expressed as grams of saline absorbed per gram of SAP in the laminate), and the maximum SAP AUL obtained under ideal conditions of low basis weight where gel blocking does not occur. SAP concentrations of from about 30 to about 95% by weight provide thinner roll good composites for efficient shaping and handling. High SAP concentrations also provide thinner absorbent cores that can provide new options for product design. The absorbent laminate cores of the invention can be made using either a wet or dry process.

Please replace the paragraph starting at page 16, line 18, with the following replacement paragraph:

In use, the invention comprises a ~~pant-like~~ garment 10 having **a pant-like configuration with** a waist-encircling region and a crotch region. The waist-encircling region may comprise a first waist region 12, disposed adjacent to, for example, the back waist region of a wearer's body, and a second waist region 14, disposed adjacent to, for example, the front waist region of a wearer's body. The first and second waist regions 12, 14, may

correspond to the front and back of the wearer's body, respectively, depending on whether garment 10 is attached in front of or behind the subject wearer. The first and second waist regions are joined together at or near their lateral edges 18, causing the longitudinally distal edges 20 of the garment 10 to form the perimeter of a waist opening. A crotch region 16 extends between the first and second waist regions 12, 14, and the crotch edges 22 form the perimeter of a pair of leg openings, when the garment 10 is placed on a subject wearer.

Please replace the paragraph starting at page 17, line 10, with the following replacement paragraph:

An embodiment of the present invention may further comprise various additional features. One or more pairs of elastic gathers 30 **(leg elastics)** may extend adjacent the crotch edges 22. The garment 10 may also comprise one or more waste containment systems, such as inboard standing leg gathers 40, which preferably extend from the second waist region 14 to the first waist region 12 along opposite sides of longitudinal center line 100 (only one standing leg gather system 40 is shown in Figure 1 for purposes of clarity). One or both of the first and second waist regions 12, 14 may also be equipped with strips of **waist elastic material 32, such as** elastic waist foam **[[32]]**or other elastically extensible material, which help contract the garment around the wearer's waist, providing improved fit and leakage prevention.

Please replace the paragraph starting at page 17, line 21, with the following replacement paragraph:

The absorbent garment 10 also preferably includes fastening elements to enable attachment of the first waist region 12 to second waist region 14. Fastening elements preferably include a pair of tabs 34 that extend laterally away from opposite lateral edges 18 of the first waist region 12 of the garment 10. The tabs 34 may comprise an elastically extensible material (not shown), and may be designed to stretch around a wearer's waist to provide improved fit, comfort, and leakage protection. Such ~~elasticized~~ tabs 34 may be used in conjunction with, or in lieu of, waist **elastic material 32, such as** foam**[[32]]**, or other elastically extensible materials**[[32]]**.

Please replace the paragraph starting at page 18, line 3, with the following replacement paragraph:

At least one fastening mechanism 36 (collectively referred to as "fastener 36") is attached to each tab 34 for attaching the tab to the second waist region 14, thereby providing the garment 10 with a pant-like shape, and enabling garment 10 to be fixed or otherwise fitted on the wearer. The fasteners 36 may attach to one or more target devices 38 located in the second waist region 14. **For example, in one embodiment of the invention, the fastening mechanism is a hook and loop fastener, where one fastening element is a hook portion, and a corresponding target device is a loop portion of the hook and loop fastener. In another embodiment, the fastening mechanism is a tape fastener system, where one fastening element is an adhesive tape, and a corresponding target device is a tape receiving surface.**

Please replace the paragraph starting at page 23, line 1, with the following replacement paragraph:

The waste containment flaps 40 preferably include a portion that folds over onto itself to form a small enclosure. At least one, and depending on the size of the enclosure sometimes more than one, elastic member 42 may be secured in the enclosure in a stretched condition. As is known in the art, when the ~~flap~~ elastic **member** 42 attempts to assume the relaxed, unstretched condition, the waste containment flaps 40 rise above the surface of the central top sheet portion or panel 301.

Please replace the paragraph starting at page 24, line 20, with the following replacement paragraph:

The top sheet 24 and the back sheet 26 may be associated with one another using a variety of methods known in the art. For example, they may be thermally, ultrasonically, or chemically bonded to one another. They also may be joined using lines of hot melt adhesive or mechanical fasteners, such as thread, clips, or staples. In one embodiment, a hydrophilic adhesive, such as ~~Cycloflex~~ CYCLOFLEX as sold by National Starch, a corporation headquartered in Bridgewater, New Jersey, is used to join the top sheet 24 to

the back sheet 26. The particular joining method may be dictated by the types of materials selected for the top sheet 24 and back sheet 26.

Please replace the paragraph starting at page 25, line 1, with the following replacement paragraph:

As mentioned above, absorbent garment preferably is provided with leg elastics 30 extending through crotch region 16, adjacent crotch edge 22. The absorbent garment of the invention also preferably is provided with waist elastic material 32 optionally in the first and second waist regions, 12, 14, respectively, to enable and assist in stretching around the wearer. The waist ~~elasties~~ **elastic materials** 32 may be similar structures or different to impart similar or different elastic characteristics to the first and second waist regions 12, 14 of the garment. In general, the waist ~~elasties~~ **elastic materials 32** may preferably comprise foam strips positioned at the first and second waist regions 12, 14, respectively. Such foam strips preferably are about ½ to about 1 ½ inches wide and about 3-6 inches long. The foam strips preferably are positioned between the top sheet portions 24 or panels (301, 302, 303) and the back sheet 26. Alternatively, a plurality of elastic strands may be employed as waist elastics rather than foam strips. The foam strips preferably are comprised of polyurethane, but can be any other suitable material that decreases waist band roll over, reduces leakage over the waist ends of the absorbent garment, and generally improve comfort and fit. The first and optional second waist foam strips **[[32]]** preferably are stretched 50-150%, preferably 100% more than their unstretched dimension before being adhesively secured between the back sheet 26 and top sheet 24.

Please replace the paragraph starting at page 25, line 22, with the following replacement paragraph:

Each edge 22 that forms the leg openings preferably is provided with ~~an~~ adjacent leg elastic**s 30 to form a** containment system**[[30]]**. In the preferred embodiment, three strands of elastic threads (only two strands are shown in Figure 2 for purposes of clarity) are positioned to extend adjacent to leg openings between the outer top sheet portions or panels 302, 303 and the back sheet 26. Any suitable elastomeric material exhibiting at

least an elongation (defined herein as (LS -LR)/LR where LS is the stretch length of an elastic element and LR is retracted length, multiplied by 100 to obtain percent elongation) in the range of 5%-350%, preferably in the range of 200%-300%, can be employed for the leg elastics 30. The leg elastics 30 may be attached to the absorbent article 10 in any of several ways which are known in the art. For example, the leg elastics 30 may be ultrasonically bonded, heat/pressure sealed using a variety of bonding patterns, or glued to the garment 10. Various commercially available materials can be used for the leg elastics 30, such as natural rubber, butyl rubber or other synthetic rubber, urethane, elastomeric materials such as LYCRA (DuPont), GLOSPAN (Globe) or SYSTEM 7000 (Fulflex).

Please replace the paragraph starting at page 27, line 26, with the following replacement paragraph:

The absorbent laminate core 28 may extend into either or both of the first and second waist regions 12, 14. The absorbent laminate core 28 of one preferred embodiment of the invention preferably includes at least four (4) layers whereby two of the layers are outer layers, (280, 282, Fig. 3) and one of the inner layers is a central fibrous layer 284 containing more than 50% by weight SAP. The absorbent laminate core 28 further includes as the at least one other inner or central layer **[[286]]**, additional layer **286** selected from a fluid acquisition layer, a distribution layer, an additional fibrous layer optionally containing SAP, a wicking layer, a storage layer, or combinations and fragments of these layers. The at least two inner layers, the central fibrous layer 284 containing more than 50% by weight SAP, and the at least one ~~other~~ **additional** inner layer 286, are disposed between the upper layer 280 and the lower layer 282.

Please replace the paragraph starting at page 28, line 25, with the following replacement paragraph:

Certain fibrous and particulate additives preferably are used as constituent elements of an absorbent core laminate. Super absorbent polymers of the surface cross-linked variety perform best in these laminates. These additives preferably are constituent elements of the central fibrous layer 284, and they may be added to the additional layer 286 (and

optional layers 288). Fibrous additives of central fibrous layer 284 preferably include, but are not limited to, cellulose acetate fibers, rayon fibers, ~~Courtauld's~~ **lyocell fibers, such as** COURTAULD'S LYOCELL fibers, polyacrylonitrile fibers, surface-modified (hydrophilic) polyester fibers, surface-modified polyolefin/polyester bicomponent fibers, surface-modified polyester/polyester bicomponent fibers, cotton fibers, or blends thereof. Of the foregoing, cellulose acetate is the most preferred fibrous additive for use in central fibrous layer 284. In addition, rayon, ~~Courtauld's LYOCELL~~ **lyocell**, polyacrylonitrile, cotton fibers and cotton linters have similar properties to cellulose acetate and are alternatively preferred. The remaining fibers, surface-modified polyolefin/polyester bicomponent fibers, and surface-modified polyester/polyester bicomponent fibers are also believed to be effective fibrous additives. The concentration of fibrous additives in the central fibrous layer 284 of the absorbent laminate core 28 of the invention preferably is about 5-50%, more preferably about 10-30%, and most preferably about 15-25%. Most preferably, the central fibrous layer 284 comprises from about 75-85% SAP and from about 15-25% fibrous additives selected from the foregoing group.

Please replace the paragraph starting at page 32, line 5, with the following replacement paragraph:

The tow fiber can be any continuous or discontinuous thermoplastic filament tow fiber that is capable of being opened and used in combination with SAP in an absorbent core. Preferably, cellulose ester tow is used as the fibrous material in central **fibrous** layer 284. Non-limiting examples of suitable cellulose esters include cellulose acetate, cellulose propionate, cellulose butyrate, cellulose caproate, cellulose caprylate, cellulose stearate, highly acetylated derivatives thereof such as cellulose diacetate, cellulose triacetate and cellulose tricaproate, and mixtures thereof such as cellulose acetate butyrate. A suitable cellulose ester will include the ability to absorb moisture, preferably is biodegradable, and is influenced not only by the substituent groups but also by the degree of substitution. The relationship between substituent groups, degree of substitution and biodegradability is discussed in W. G. Glasser et al, BIOTECHNOLOGY PROGRESS, vol. 10, pp. 214-219 (1994), the disclosure of which is incorporated herein by reference in its entirety.

Please replace the paragraph starting at page 34, line 21, with the following replacement paragraph:

Depending on whether a wet or dry process is used to make the absorbent laminate cores 28, bonding central fibrous layer 284 with additional layer 286, and tissue layers 280, 282, can be achieved with hydrogen or adhesive bonds. If the material used to form the absorbent laminate cores 28 contains about 1-5% by weight thermally bondable synthetic fibers, bonding can be achieved with thermal bonds. When the upper and lower layers 280, 282 are tissue layers and are hydrogen bonded using water to middle layers 284, 286 (and optionally 288), unexpectedly good "core utilization" is realized. "Core utilization" is the percentage of the total capacity of a core that can be absorbed in a demand absorbency test. This unexpected performance improvement is believed to be the result of the good liquid distribution achieved with a high density, non-gel blocking central fibrous layer 284, at least one additional layer 286, and using tissue layers 280, 282 that are intimately bonded to the fibers of the inner layers **(central fibrous layer** 284, **additional layer 286)** **[[286]]** of the absorbent laminate core 28.

Please replace the paragraph starting at page 35, line 22, with the following replacement paragraph:

One element that is useful as an additional layer 286 in the absorbent laminate core 28 of the invention is a fluid acquisition layer. The fluid acquisition layer typically comprises a hydrophilic fibrous material, and serves to quickly collect and temporarily hold discharged body fluid. A portion of discharged fluid may, depending upon the wearer's position, permeate the acquisition layer and be absorbed by the central fibrous layer 284 in the area proximate to the discharge. However, since fluid is frequently discharged in gushes, the central fibrous layer 284 in such area may not absorb the fluid as quickly as it is discharged. Therefore, the fluid acquisition layer **[[286]]** hereof also facilitates transport of the fluid from the point of initial fluid contact to other parts of the absorbent laminate composite 28. In the context of the present invention, it should be noted that the term "fluid" includes, but is not limited to, liquids, urine, menses, perspiration, and water based body fluids.

Please replace the paragraph starting at page 36, line 8, with the following replacement paragraph:

The function of the fluid acquisition layer [[286]] (as additional layer 286) is relatively important. The fluid acquisition layer [[286]] preferably has sufficient capillary suction to more fully drain the top sheet 24 and yet not exhibit excessive fluid retention to make it difficult for the underlying layer (e.g., central fibrous layer 284) to desorb the acquisition layer [[286]]. The acquisition layer [[286]] may be comprised of several different materials including nonwoven or woven webs of synthetic fibers including polyester, polypropylene, or polyethylene, natural fibers including cotton or cellulose, blends of such fibers, foams, fluff pulp, apertured films, or any equivalent materials or combinations of materials.

Please replace the paragraph starting at page 36, line 18, with the following replacement paragraph:

Another useful layer for use as an additional layer 286 in the absorbent laminate core 28 of the invention includes a fluid distribution layer [[286]]. Fluid distribution layers [[286]] of the invention can include any combination or all of three basic components: chemically stiffened, twisted, and curled bulking fibers, high surface area fibers, and binder fibers. In a preferred embodiment of the invention, the fluid distribution layer [[286]] comprises from about 20% to about 80% of the chemically stiffened, twisted, and cured fibers, from about 10% to about 80% of a high surface area fiber, and from 0% to about 50% of a thermoplastic binding means for increasing physical integrity of the web. All percentages herein refer to weight percentages based on total dry web weight. Preferably, the fluid distribution layer [[286]] will comprise between about 45% and about 60% of chemically stiffened, twisted, and cured fibers, between about 5% and about 15% of a hot melt fibrous binding means, and between about 30% and about 45% high surface area cellulose binding means. More preferably, the fluid distribution layer [[286]] comprises about 10% thermoplastic binding means, about 45% chemically stiffened, twisted, and cured fibers, and about 45% high surface area fibers.

Please replace the paragraph starting at page 37, line 14, with the following replacement paragraph:

> **The fluid** ~~**Fluid**~~ distribution layer **[[286]]** also may be comprised of non-woven or woven webs of synthetic fibers, natural fibers, foams, carded, thermal bonded materials, and the like.

Please replace the paragraph starting at page 37, line 17, with the following replacement paragraph:

> Another useful layer **for use as an additional layer 286** in the absorbent laminate core 28 of the invention includes a storage layer **[[286]]**. Such storage layers **[[286]]** typically have limited transport and wicking capabilities but high storage or retention capacity, and rely upon the central fibrous layer 284 to distribute incoming fluid over a larger area.

Please replace the paragraph starting at page 37, line 22, with the following replacement paragraph:

> Storage layers or members **[[286]]** may be of generally conventional design and composition, selected with regard to the particular application. The storage layer or member **[[286]]** may be monolayer or multilayer, homogeneous or stratified, profiled or uniform, etc. Materials suitable for use in such storage layers **[[286]]** may be natural or synthetic in origin, woven, non-woven, fibrous, cellular, or particulate, and may include particles, layers, or regions of absorbent polymeric gelling materials. Other preferred materials include fluff pulp and SAP composites, either air laid or wet laid, and high capacity resilient foam materials. Storage layer **[[286]]** may also have any desired size and/or shape as may prove suitable for a particular application, including square, rectangular, oval, elliptical, oblong, etc. They may also take on a three-dimensional shape or may be substantially planar in nature.

Please replace the paragraph starting at page 38, line 9, with the following replacement paragraph:

Another useful layer **for use as an additional layer 286** in absorbent laminate core 28 is a wicking layer **[[286]]**. Wicking layers usually have both fluid acquisition and fluid distribution properties. For example, vertical wicking, which is in general the ability to transport fluids vertically from the top sheet 24 to the absorbent laminate core 28, is related in many respects to fluid acquisition. Horizontal wicking, which is in general the ability to transport fluids along the horizontal 100 and vertical 102 axes of Figure 1, is related in many respects to fluid distribution.

Please replace the paragraph starting at page 38, line 17, with the following replacement paragraph:

Any conventional wicking materials can be used for the wicking layer **[[286]]** of the invention. High internal phase emulsion (HIPE) foams such as those disclosed in U.S. Patent No. 5,650,222 can be used, braided materials such as those disclosed in H1,585, and other conventional fibrous and strand materials can be used. The disclosures of U.S. Patent No. 5,650,222 and H1,585 are incorporated by reference here in their entirety, and in a manner consistent with the present invention.

Please replace the paragraph starting at page 38, line 24, with the following replacement paragraph:

Wicking layer **[[286]]** also may be comprised of two or more sublayers containing absorbent materials with differing wicking characteristics. Any of the materials discussed in this context can be used for any and all of the wicking layers **[[286]]**. In accordance with the embodiment of the invention discussed immediately above, the wicking layer **[[286]]** may include a first member that is made of a material that is capable of rapidly transferring, in the z-direction (e.g., orthogonal to the plane formed by horizontal 100 and vertical 102 axes of Figure 1), body fluid that is delivered to top sheet 24. The first member may be designed to have a dimension narrower than the dimension of the absorbent laminate core 28. In this regard, the sides of the first member preferably are spaced away from the longitudinal sides of the absorbent laminate core 28 so that body fluid is restricted to the area within the periphery of the first member, before it passes down and is absorbed into central fibrous layer 284 (or second member of the

wicking layer **[[286]]**). This design is believed to enable the body fluid to be combined in the central area of the absorbent laminate core 28 and to be wicked downward so that a greater quantity of the central fibrous layer 284 can be utilized.

Please replace the paragraph starting at page 40, line 21, with the following replacement paragraph:

The types of non-woven materials that may be employed in any of the wicking layers **[[286]]** of the invention include powder-bonded-carded webs, infrared bonded carded webs, and through-air-bonded-carded webs. The infrared and through-air bonded carded webs can optionally include a mixture of different fibers, and the fiber lengths within a selected fabric web may be within the range of about 1.0 to 3.0 inch and an average bulk density of about 0.02 g/cc to about 0.06 g/cc.

Please replace the paragraph starting at page 41, line 1, with the following replacement paragraph:

The first member of wicking layer **[[286]]** also may be a non-woven fibrous web which includes about 75 percent polyester fibers of at least 6 denier, such as PET (polyethylene terephthalate) fibers available from Celanese AG. The polyester fibers have a length ranging from about 1.5 to 2.0 inches in length. The remaining 25 percent of the fibrous web can be composed of bicomponent binder fibers of not more than 3 denier, and preferably about 1.5 denier. The bicomponent fiber length ranges from about 1.5 to 2 inches. Suitable bicomponent fibers are wettable, polyethylene/polypropylene bicomponent fiber, available from Chisso, a business having offices located in Osaka, Japan. The bicomponent fiber can be a composite, sheath-core type with the polypropylene forming the core and polyethylene forming the sheath of the composite fiber. The polyester fibers and bicomponent fibers generally are homogeneously blended together and are not in a layered configuration. The fibers can be formed into a carded web which is thermally bonded, such as by through-air bonding or infrared bonding.

Please replace the paragraph starting at page 41, line 17, with the following replacement paragraph:

The second member of **the** wicking layer **[[286]]** may be positioned vertically below the first member, and it preferably has a higher wicking capacity along the longitudinal 100 and vertical 102 axes of Figure 1, than the first member. Preferably, the second member has a wicking capacity at least three time greater than the first member. The second member can be equal in width to the first member, but preferably will be wider. It is preferred that the width of the wicking layer **[[286]]** in general be the same as or greater than the width of central fibrous layer 284.

Please replace the paragraph starting at page 42, line 16, with the following replacement paragraph:

Other suitable materials for use as wicking layer **[[286]]** include high-density air laid fluff pulps, high-density wet laid fluff pulp, and multi-groove fibers such as 4DG deep groove fiber, available from Eastman Chemical Company, Tennessee, or Clemson University, South Carolina

Please replace the paragraph starting at page 45, line 1, with the following replacement paragraph:

The absorbent laminate core 28 shown in Figure 5 includes two central fibrous layers 284 disposed between upper layer 280 and lower layer 282 (again, upper and lower layers 280, 282, preferably are tissue layers). The two central fibrous layer 284 are separated from one another by an optional additional layer 288. Preferably, optional additional layer 288 is a tissue layer, although it may be comprised of any of the materials used as additional layer 286, including another **central** fibrous layer 284. In this embodiment, the respective central fibrous layers 284 may contain varying degrees of SAP, or one can contain more than 50% by weight SAP and the others contain no SAP at all.

Please replace the paragraph starting at page 46, line 16, with the following replacement paragraph:

Figure 9 depicts a preferred embodiment of the invention that includes a fragmented layer. The absorbent laminate core 28 shown in Figure 9 includes an upper layer 280,

~~a fragmented~~ an additional layer 286, a central fibrous layer 284, and a lower layer 282. Again, it is preferred that upper layer 280 and lower layer 282 are tissue layers. In the embodiment illustrated in Figure 9, it is preferred that the ~~fragmented~~ additional layer 286 be comprised of a fragmented wicking layer that is fragmented in the lateral direction 102. That is, additional layer 286 runs the entire length of absorbent laminate core 28 in the longitudinal direction (100), but is fragmented along the width, or vertical direction 102.

Please replace the paragraph starting at page 46, line 26, with the following replacement paragraph:

The preferred embodiment shown in Figure 10 is essentially the inverse of that shown in Figure 9 whereby the ~~fragmented~~ additional layer 286 is disposed between central fibrous layer 284 and lower layer 282. It is preferred that ~~fragmented~~ additional layer 286 be comprised of a fragmented wicking or storage layer. Figure 11 illustrates an embodiment whereby two central fibrous layers 284 are disposed between upper layer 280 and lower layer 282, and a ~~fragmented~~ additional layer 286 is disposed between the two central fibrous layers 284. In this embodiment, it is preferred that ~~fragmented~~ additional layer 286 be comprised of a fragmented wicking or storage layer. Again, the first and second central fibrous layers 284 may be the same or different, and may include varying degrees and amounts of SAP.

Please replace the paragraph starting at page 47, line 25, with the following replacement paragraph:

Figures 14 and 15 depict an alternative embodiment of the invention. In this embodiment, a fragmented additional layer is disposed above upper layer 280, or below lower layer 282 (not shown). The absorbent laminate core 28 in this embodiment of the invention need only comprise an upper layer 280, a central fibrous layer 284, and a lower layer 282, as shown in Figure 14. In the embodiment of Figure 14, it is preferred that additional ~~fragmented~~ layer 286 be a **fragmented** wicking layer. Additional layers may be present either above or below absorbent laminate core 28, or ~~fragmented~~ **additional** layer 286, or additional layers may be disposed within absorbent laminate core 28.

Please replace the paragraph starting at page 48, line 7, with the following replacement paragraph:

The alternative embodiment illustrated in Figure 15 encompasses a fragmented additional layer **[[286]]** disposed above upper layer 280, or below lower layer 282 (not shown) of the absorbent laminate core 28 of the first alternative embodiment disclosed above (e.g., an absorbent laminate core 28 including an upper layer, a lower layer, a central fibrous layer containing more than 50% by weight SAP, and an additional layer). Any of the embodiments illustrated in Figures 2-13 can be used as the absorbent laminate core 28 of Figure 15, but it is preferred that the absorbent laminate core 28 of Figure 3 be used. In this preferred embodiment, additional ~~**fragmented**~~ layer 286 is disposed above absorbent laminate core 28, whereby additional ~~**fragmented**~~ layer 286 is a **fragmented** wicking layer. The absorbent laminate core 28 preferably includes upper layer 280, and in descending order, additional layer 286, central fibrous layer 284, and lower layer 282. It is preferred that additional layer 286 disposed between upper layer 280 and central fibrous layer 284 be a fluid acquisition layer or a combination of a wicking and distribution layer.